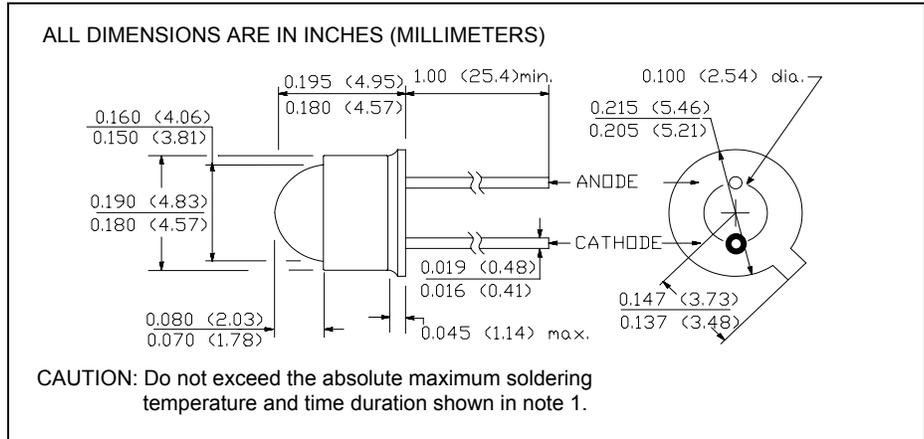
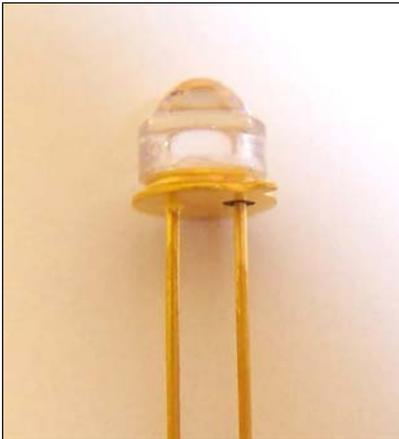


CLE331P

AlGaAs Point Source IRED Plastic Collimating Lens



June, 2003



features

- 850nm wavelength
- 50MHz operation
- TO-46 plastic lens package
- $\pm 2^\circ$ emission angle
- collimating lens

absolute maximum ratings ($T_A = 25^\circ\text{C}$ unless otherwise stated)

storage and operating temperature.....	-40°C to +100°C
lead soldering temperature ⁽¹⁾	240°C
continuous forward current ⁽²⁾	100mA
reverse voltage.....	3V
maximum power dissipation ⁽³⁾	200mW

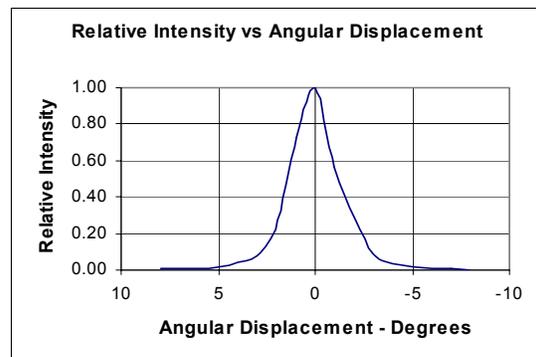
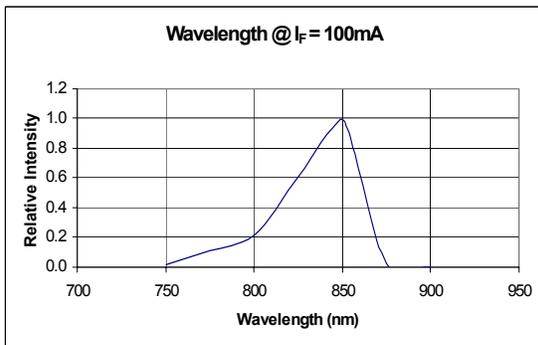
description

The CLE331P is an advanced, high efficiency, high speed, point source, AlGaAs infrared-emitting diode intended for use in applications requiring a uniform output radiation pattern. With a point source die junction diameter of 0.002", the plano aspheric lens provides a highly collimated radiation source. Beam pattern is very uniform without the bond wire shadow effect of standard infrared emitting diodes.

notes:

1. 1/16" (1.6mm) from the header for 5 seconds maximum.
2. Derate linearly 1.07mA/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.
3. Derate linearly 2.13mW/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.

fundamental characteristics



Clairex reserves the right to make changes at any time to improve design and to provide the best possible product.

Revised 12/01/04

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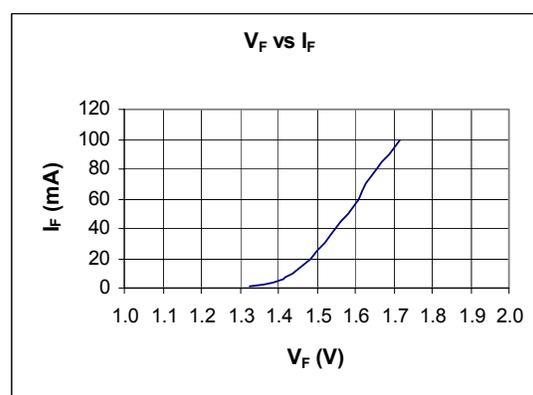
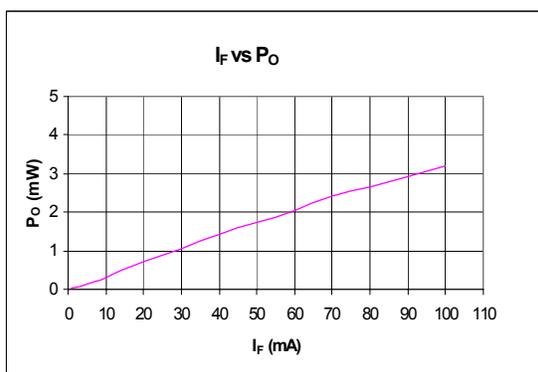
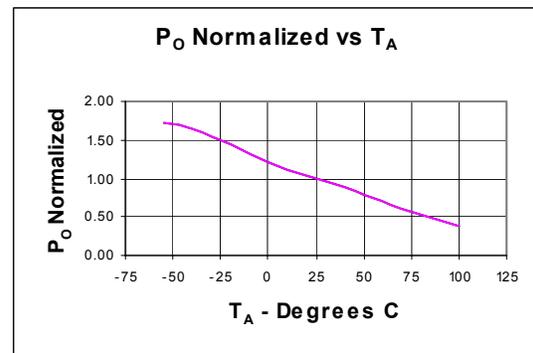
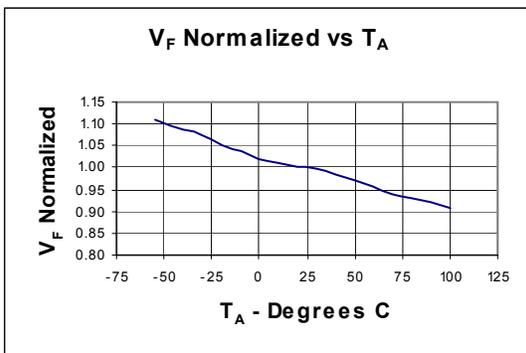
CLE331P

AlGaAs Point Source IRED Plastic Collimating Lens



electrical characteristics at $T_A = 25^\circ\text{C}$ (unless otherwise stated)						
symbol	parameter	min	typ	max	units	test conditions
P_O	Total power output ⁽⁵⁾	-	3.0	-	mW	$I_F = 100\text{mA}$
E_e	Typical irradiance ^(4,5)	300	-	-	$\mu\text{W}/\text{cm}^2$	$I_F = 100\text{mA}$
V_F	Forward voltage ⁽⁵⁾	-	1.7	2.2	V	$I_F = 100\text{mA}$
I_R	Reverse current	-	-	10	μA	$V_R = 3.0\text{V}$
λ_P	Peak emission wavelength ⁽⁵⁾	-	850	-	nm	$I_F = 100\text{mA}$
BW	Spectral bandwidth at half power points ⁽⁵⁾	-	60	-	nm	$I_F = 100\text{mA}$
Θ_{HP}	Emission angle at half power points ⁽⁵⁾	-	4	-	deg.	$I_F = 100\text{mA}$
t_r, t_f	Output rise and fall time ⁽⁵⁾	-	5.0	10	ns	$I_F = 100\text{mA}$

notes: 4. Power/unit area measured within a 0.444" (1.128cm) diameter area, centered on the mechanical axis of the device and spaced 2.54" (6.45cm) from lens side of the tab. This is geometrically equivalent to a 10° cone.
5. Measurement made with 100 μs pulse measured at the trailing edge of the pulse with a duty cycle of 0.1%. Pulse generator t_r and $t_f < 200\text{ps}$.



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